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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/838,268      | 04/20/2001  | Jun Ebata            | 206334US2           | 9286             |

22850 7590 06/03/2003

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EXAMINER

FLEURANTIN, JEAN B

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/838,268

Applicant(s)

EBATA, JUN

Examiner

Jean B Fleurantin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

### **DETAILED ACTION**

1. Claims 1-10 are presented for examination.

#### ***Priority***

2. Receipt is acknowledge of papers submitted under 35 USC 119(a)-(d), which papers have been placed of record in the file.

#### ***Information Disclosure Statement***

3. The references cited in the Information Disclosure Statement PTO-1449 have been fully considered.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Di-Crescenzo et al. "Universal Service-Providers for Database Private Information Retrieval", submitted by the Applicant ("Crescenzo")

As per claims 1 and 7, Di-Crescenzo teaches a method which uses a plurality of document schemas to manage a document retrieval request, the document schemas defining a structure of document contents, each document schema including a plurality of attributes (see page 2, lines 20-25), as claimed the method comprises the steps of assigning a schema identifier to each of the plurality of document schemas by generating a global unique identifier value every time a schema name of a new document schema is

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input (thus, a sufficiently large coalition of servers may be granted the legal right to recover the user's retrieval index, given a transcript of the user's query, in our (m-1) private m-server schemes a coalition of all servers with a database is required to reveal the user's index; which is readable as assigning a schema identifier to each of the plurality of document schemas by generating a global unique identifier value every time a schema name of a new document schema is input)(page 3, lines 31-34). But, Di-Crescenzo does not explicitly indicate assigning an attribute identifier to each of the plurality of attribute of one of the plurality of document schemas by generating another global unique identifier value. However, Di-Crescenzo implicitly indicates the transformation from the original data string  $x$  to the virtual data string  $x'$  corresponds to an 'oblivious shift' of  $x$  by a random amount  $r_1$ , which is known to the user  $s_1$  but is unknown to the database and  $s_2$ , indeed each record of  $x'$  may be viewed as an encoding according to  $p_1$  of a corresponding shifted record from  $x$ ; which is readable as assigning an attribute identifier to each of the plurality of attribute of one of the plurality of document schemas by generating another global unique identifier value, (see page. 10, lines 19-22). Thus, it would have been obvious to a person of ordinary skill in the art at the time of the invention was made to modify the teachings of Di-Crescenzo with assigning an attribute identifier to each of the plurality of attribute of one of the plurality of document schemas by generating another global unique identifier value. This modification would allow the teachings of Di-Crescenzo to provide user to retrieve information from database in such way that the database does not get any information about the user's query (see page 1, lines 28-31).

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As per claims 2 and 8, Di-Crescenzo teaches a document management method as claimed further comprises the steps of determining whether the attribute of a changed document schema include an attribute ID that is common to a non-changed document schema, through comparison between the attribute identifier of both the changed document schema and the non-changed document schema (thus, the transformation from the original data string  $x$  to the virtual data string  $x'$  corresponds to an 'oblivious shift' of  $x$  by a random amount  $r_1$ , which is known to the user  $s_1$  but is unknown to the database and  $s_2$ ; which is readable as determining whether the attribute of a changed document schema include an attribute ID that is common to a non-changed document schema, through comparison between the attribute identifier of both the changed document schema and the non-changed document scheme)(see page 10, lines 19-21); and

replacing the attributes of the non-changed document schema with the attributes of the changed document schema having the common attribute identifier (thus, using the database's answer on the shifted data string and the trapdoor information supplied by the server, the user can efficiently reconstruct the desired data record; which is readable as replacing the attributes of the non-changed document schema with the attributes of the changed document schema having the common attribute identifier)(see page 9, lines 23-25).

As per claims 3 and 9, Di-Crescenzo teaches a document management method as claimed, wherein the plurality of document schemas are contained in a document schema file, the document schema file being stored into a first document management system and containing the schema identifier for each of the document schemas and the attribute identifier for each of the attributes of one of the document schemas (see page 24, lines

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17-19), and the document schema file capable of being stored into a second document management system (thus, there is a user with private input 'address'  $i$  and one or more databases holding copies of an  $n$ -bit data string  $x$ ; which is readable as document schema file capable of being stored into a second document management system)(see page 2, lines 5-6).

As per claims 4 and 10, Di-Crescenzo teaches a document management method as claimed, wherein the first assigning step is configured to receive global unique identifier value as a new schema identifier from an external system via a network and to assign the new schema identifier to one of the plurality of document schemas (thus, the user sends a query as in the scheme for single-bit records, each database answers the user's query  $l$  times once under each  $n$ -bit data string  $x$ , and the user applies the original reconstruction function  $l$  times once for each answer; which is readable as wherein the first assigning step is configured to receive global unique identifier value as a new schema identifier from an external system via a network and to assign the new schema identifier to one of the plurality of document schemas)(see page 7, lines 37-40).

As per claim 5, Di-Crescenzo teaches a document management method as claimed, wherein, when a query condition is input, the document management method carries out a query conversation process for the input query condition, the query conversion process comprising the steps of reading a schema identifier, which correspond to one of schema names in the query condition, from a related one of the plurality of document schemas (thus, the read operation for the commodity scheme can be obtained from the original read operation as in atomic commodity PIR schemes; which is readable as the query conversion process comprising the steps of reading a schema identifier,

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which correspond to one of schema names in the query condition, from a related one of the plurality of document schemas)(see page 25, lines 9-10). Further, in page 5, lines 20-25, Di-Crescenzo teaches the user sends a query to each database and receives an answer in return at the end of the interaction, the user applies some reconstruction function to the answers; and

replacing each of the schema names in the query condition with the schema identifier (thus, the user sends a query as in the scheme for single-bit records, each database answers the user's query 1 times once under each n-bit data string x, and the user applies the original reconstruction function 1 times once for each answer; which is readable as replacing each of the schema names in the query condition with the schema identifier)(see page 7, lines 37-40).

As per claim 6, in addition to the discussion in claim 5, Di-Crescenzo further teaches determining whether one of attribute names included in the query condition is a common attribute shared by the plurality documents schemas (thus, the user sends a query to each database and receives an answer in return at the end of the interaction, the user applies some reconstruction function to the answers; which is readable as determining whether one of attribute names included in the query condition is a common attribute shared by the plurality documents schemas)(see page 5, lines 20-35).

#### ***Prior Art***

5. The art made of record and not relied upon is considered pertinent to applicant's disclosure. Tolkin US Patent Number 6,466,942, relates to using indexes to retrieve stored information.

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*Conclusion*

6. Any inquiry concerning this communication from examiner should be directed to Jean Bolte Fleurantin at (703) 308-6718. The examiner can normally be reached on Monday through Friday from 7:30 A.M. to 6:00 P.M.

If any attempt to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Mrs. KIM VU can be reached at (703) 305-8449. The FAX phone numbers for the Group 2100 Customer Service Center are: After Final (703) 746-7238, Official (703) 746-7239, and Non-Official (703) 746-7240. NOTE: Documents transmitted by facsimile will be entered as official documents on the file wrapper unless clearly marked "DRAFT".

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group 2100 Customer Service Center receptionist whose telephone numbers are (703) 306-5631, (703) 306-5632, (703) 306-5633.

  
Jean Bolte Fleurantin

2003-05-16

JBF/

  
JEAN M. CORRIELUS  
PRIMARY EXAMINER